REMARKS

This communication is in response to the Office Action of March 27, 2007.

The examiner objected to claim 12. It is respectfully submitted that this objection has been addressed by the cancellation of claim 12.

The examiner rejected the method claims under 35 USC 101 on the basis that the method claims do not describe a practical application and do not describe a useful, concrete and tangible result. Applicants have amended the independent method claims to describe an embodiment in which the operating state of the graphics system is based on the performance level.

Claims 1, 2, 4-6, 8-12, 14-16, 18-20, 22, and 25-27 were rejected under 35 USC 102 over CULBERT. Claims 3, 13, 21, 23, and 24 were rejected under 35 USC 103 over CULBERT in view of WILLIAMS. Claims 7 and 17 were rejected under 35 USC 103 over CULBERT in view of BOSE. In response to the 35 USC 102-103 claim rejections, Applicants have amended the claims to distinguish over the cited art. Reconsideration and allowance of the pending claims is respectfully requested.

Independent claims 1, 21, and 25 were amended to describe an embodiment having "a sequence of at least two discrete performance levels with each performance level being defined by a core clock rate of a graphics processing unit and a memory clock rate." Support for this amendment is found in the original claims, Figure 2, and paragraph [0024]-[0025].

Independent claims 1, 21, and 25 were amended to describe an embodiment in which the graphics system operates at "the core clock rate and memory clock rate associated with the selected performance level."

Independent claims 1, 21, and 25 were amended to include a limitation similar to claim 1 that the selected performance level is "a minimum performance level sufficient to maintain the display rate within the normal range." Support for this amendment is found in the original claims and paragraph [0021].

Claim 1 was also amended to combine limitations of a number of original dependent claims. As amended, claim 1 includes the elements of "monitoring a first attribute indicative of utilization of a graphics pipeline within a graphics processor core clock domain and determining whether the graphic pipeline is under-utilized or over-utilized" and "monitoring a second attribute indicative of utilization of a graphics memory within a graphics memory clock domain and determining whether the graphics memory is under-utilized or over-utilized."

It is respectfully submitted that amended claims 1, 21, and 25 distinguish over the cited art. The cited art does not have "a sequence of at least two discrete performance levels with each performance level being defined by a core clock rate of a graphics processing unit and a memory clock rate" with the graphics system operated at "the core clock rate and memory clock rate associated with the selected performance level." CULBERT adjusts only the clocking frequency of a memory interface to local memory and does not have discrete performance levels. CULBERT, column 1, lines 62-67. Moreover, WILLIAMS discloses a system that adjusts only an internal clock of a graphics subsystem but does not adjust a separate memory clock rate. WILLIAMS, Col. 6, lines 19-22. WILLIAMS also does not disclose discrete performance levels. In contrast, WILLIAMS teaches that "The goal of the controller is to run the graphics subsystem as fast as possible when permitted by its graphics load, heat generation, as well as other factors." WILLIAMS at col. 6, lines 27-32. The other cited art similarly fails to describe discrete performance levels in the manner of the claimed inventions and operating at the core clock rate and memory clock rate associated with the selected performance level.

Independent claims 1, 21, and 25 also include a limitation of operating at "a minimum performance level sufficient to maintain the display rate within the normal range." The cited art does not teach or suggest this limitation. In particular, Applicants can find no indication in the sections cited by the Examiner that the cited art is concerned with maintaining the display rate within a pre-selected normal range at a minimum performance level. As previously described WILLIAMS teaches operating the graphics subsystem as fast as possible and CULBERT is concerned only with memory interface utilization. The other cited art similarly fails to address this claim limitation.

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is now in condition for allowance. The Examiner is invited to contact the undersigned if there are any residual issues that can be resolved through a telephone call.

The Commissioner is hereby authorized to charge any appropriate fees to Deposit Account No. 50-1283.

Respectfully submitted,
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